

**ISSUE # 1 -- FUNDING.** Regardless of the option selected, additional costs must be incurred as the result of the Challenger accident. While this report attempted to address the magnitude of the costs required for each option, no offsets were identified. Any FY86 and FY87 costs would be increases beyond what was anticipated and requested for these years; these costs would therefore exceed the Graham-Rudman ceilings for these years.

This report made no attempt to resolve the funding issue. The Administration will have to select the groundrules and approach for funding any option selected. Once this is done, the individual agencies will have to work the specific funding problems before an Administration budget request is sent to the Congress.

**ISSUE # 2 -- TERMINATION OF STS COMMERCIAL SERVICES.** NASA has agreed that the current practice of marketing the STS launch capability to service the commercial and foreign communications satellite market should be discontinued. This would allow an additional capacity of about 3 STS equivalents a year for government needs and the elimination of the STS backlog. While there is no disagreement over the issue itself, there is ambiguity as to the exact timing of this transition. Without a clear, unambiguous phase point agreed to by the government it is unlikely that private investors will take the risk of potentially competing with the government for an unspecified period of time. This is largely due to the limited size of the target market, the uncertainty of the government's precise intentions, and the long term nature of the capital investments required to establish the industry.

On the one hand the government should honor its firm commitments for the provision of launch services; on the other hand, if the government is to share the benefits of a domestic ELV industry, the earliest practical transition date should be established. For this industry to develop by 1989 a realistic market must be available by this timeframe. The only way the government can realistically influence the size of the commercial market is to establish a firm date to discontinue government competition for this market.

A specific date or criteria must be agreed to if this industry is to develop.

**ISSUE # 3 -- FLIGHT RATE PLANNING.** Throughout this report two flight rates were used. The NASA planned flight rates reflect their estimates of the technical capacity of the STS as an operational whole. The working group has not challenged the validity of the technical estimates; rather, the group has considered more conservative flight rates for planning purposes and for the analysis in this report. These lower rates were judged to be more realistic for planning during the recovery period in light of the many routine

operational issues that are likely to continue to reduce the technically achievable capacity. This lower rate considers these unquantifiable uncertainties and reduces the planned rates accordingly.

The working group believes that a more conservative flight rate should be used for planning purposes until higher flight rates can be demonstrated.

**ISSUE # 4 -- ALTERED STS PRIORITIES.** Implicit in the options considered in this report are several changes in the recommended usage of the STS. The conscious offloading of national security and commercial missions from the STS to increase the diversity of the national launch posture and encourage the development of a domestic ELV industry runs counter to the previous objective of using the STS for all missions and increasing the flight rates to lower the cost per flight. This new approach recognizes the value of the STS assets and the unique capabilities that they offer and refocuses the emphasis of the STS usage on these highest value characteristics. This is consistent with the preference for lower planned flight rates.

This approach is inconsistent with using cost per flight as a measure of the system's cost effectiveness. Cost per flight only measures the cost and does not address the effectiveness of the system's usage. If these concepts are accepted by the Administration, a consistent argument must be adopted that reflects this altered set of objectives and priorities or the recommended strategies will be interpreted as inconsistent with the most "cost effective use" of the STS. While the cost per flight will unquestionable go up under this strategy, the total cost of STS operations may be reduced with the lower flight rates and the effectiveness achieved with each flight may increase as the unique aspects of the Shuttle are more frequently exploited.

**ISSUE # 5 -- CIVIL MISSION USE OF ELVS.**